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A SYSTEM, METHOD AND DEVICE FOR MANAGING GOLF HANDICAP DATA

Field of the invention

5   The present invention relates to the field of golf, and
more particular a system, method and device for handling
handicap-qualifying scores from individual players.

Technical background

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In golf, the players have to keep a detailed track of their
progress through their game, registering how many attempts
on hitting the ball is required for them to complete a
hole. These scores are part of a detailed player rating

15   system, where the player level is reflected through a
rating called handicap. As the player improves, so does
their handicap after each qualifying round.

As there are many factors behind keeping a golf score, the

20   players use scorecards with more or less advanced tables
for calculation and registration of scores. In many places
these scorecards are made on paper, and the players keep
track of the scores by filling them in with a pencil. After
the game the scores are used for a calculation of handicap

25   and approved by play partner, golf club or tournament
committee, depending on the circumstances.

Keeping track of play details is also a significant part of
golf culture, where score registration is regulated by many

30   rules sometimes imposing strict procedures for how to fill
out and complete a scorecard.

For a round of golf to be handicap-qualifying, the rules
today demand that two players verify each others scores

35   made on one scorecard. Often two separate scorecards are
used, where one players fills out a scorecard for the
flight (up to four players), and a second fills out the
second scorecard in parallel, for later cross-check. Thus

at least two players are required. After the game is completed the scores are controlled, and the controlling player enters the new adjusted handicap and signs the handicap-card belonging to the first player, and vice
5   versa.

In tournament play the rules are even stricter: two scorecards per flight are required. Before play, both scorecards have to be signed by both players keeping
10 record, and after the game these scorecards are handed in to the tournament committee, where they are compared before results and adjusted handicap is calculated.

For the results of the play to be accepted and new
15 handicaps calculated, the results coming from the scorecards must be identical. This creates problems in a solution where two electronic scorecards are used, as there is no way the two active units can automatically verify input against each other during the game. If a mismatch
20 occurs, and the players do not spot this by themselves as they record the results, the error is only detected after the 18 holes have been completed. The players then have to remember the game details in order to correct the error, which is difficult.
25
Today, there are a number of different administration and database solutions storing golf player information, including personal details, membership payment status and official handicap. The official handicap is per today in
30 most countries adjusted once a year, through a painstaking process not deprived of reporting or computing mistakes where the clubs themselves through their handicap committee manually update their player's official handicap by typing it from the member's cards into a web-interface, to
35 register and issue an updated card.

Prior art

In EP 0840639 B1, there is disclosed an electronic golf
score recording system catering for the individual player,
5   allowing him to track various scores - among which handicap
- on a personally-owned electronic handheld, and update the
club database with data recorded during play. This system
eases the personal handicap recording and transfer to the
golf club PC, but it is focussed on the individual player
10   requirements, and does not address the specific issues of
data management quality and integrity during tournament or
handicap-qualifying rounds, and the further management of
handicap-data during and after the game except through the
simple synchronisation with the club PC at the end of the
15   game. This patent says that the database used in connection
with the ``personal performance system'' (the handheld
device) is specific to one golf club/course, and does not
use a database that is not specific to one golf
club/course, or a national (or international) database
20   covering a wide range of different clubs/courses.

Several patents and patent applications, among which US
6,062,991, WO 09607974 A1, WO 98/44998, EP 1072292 A2,
attempt to ease communication between the remote or
25   portable terminal and the golf club PC. But they do not
address in a new and satisfactory manner the handicap-data
quality and integrity management during and after handicap-
qualifying games.

30   WO 9607974 A1 applies to solve the process of updating an
individual handicap index card thanks to a contact less
smartcard communicating with radio waves. This helps the
travelling individual player bearing with him own data, but
those are not certified, and with no information on latest
35   updates.

In WO 09947216 A1, there is disclosed a solution where the
golf PC is connected to other golf club PCs, for the club

4

PC to be able to access data on other clubs or home PCs, and vice-versa. The club PC may be connected to a golf association handicap database, itself being possibly in synchronisation with national or international databases.
5   But it does not handle handicap-data quality and integrity because data received in the golf club PC are not verified. Also the data is stored first in the club house PC, and not on the terminal on the course. This means that the critical communication between the terminal on the course and the
10   rest of the system is not backed-up by storage in the field unit.

In WO9607974 A1, there is mentioned that the golf club PC may be connected to a computer network or a database
15   through modem, cable or satellite, and that may allow all sorts of programming and information display, such as golfers playing on different club courses may communicate, but no issue on handicap-data quality and integrity are addressed. The central mainframe computer for the golf
20   association has several handicap computing, updating and normalising capabilities so as to issue monthly handicap updates to local clubs ensuring those data to be updated at the player level. As for WO 09947216 A1 there are no particular means for ensuring handicap data quality and
25   back-up during play.

In WO 0197925 A2, there is mentioned a database common to several golf clubs, acting as a central repository for handicap and other data. As for WO 09947216 A1 there are no
30   particular means for ensuring handicap data quality and back-up during play.

Summary of the invention

35   It is an object of the present invention to simplify handling of handicap score data.

It is another object of the invention to provide a system
that guarantees the integrity and quality of handicap score
data, and thus promotes fair play.

5 Another object of the invention is to provide a handheld
device for registering golf score data which is fitted for
outdoor use.

Another object of the invention to handle handicap data for
10 players playing away from their club, e.g. when visiting a
club abroad.

Still another object is to provide a system enabling
conditioning access to popular golf clubs based on a
15 handicap criterion.

These objects are achieved in a system and method as
claimed in the appended patent claims. According to a first
aspect, the invention comprises a system for managing
20 handicap data during a game of golf, said system including:
a golf club information system with access to information
regarding the identity of individual golf players, handicap
information for each registered golf player, and golf
course information,
25 first and second electronic means for storing and
processing scores during said game,
each of said first and second electronic means being
adapted to fetch identity and handicap information for at
least one player, as well as golf course information from
30 said golf club information system before a game session
commences,
each of said first and second electronic means being
adapted to receive score data for said player(s) during the
game session,
35 said first and second electronic means being adapted to
exchange the score data, compare the data entered and
verify the correctness of said data,

and wireless communication means for transferring the
verified score data to the golf club information system,
said golf club information system being adapted to compute
an updated handicap value for said player(s) from the
5   verified score data and store said updated handicap value.

According to a second aspect, the invention comprises a
system for managing handicap data during a game of golf,
said system including:
10   a golf club information system with access to information
regarding the identity of individual golf players,
handicap information for each registered golf player, and
golf course information,
first and second portable electronic means for storing
15   and processing scores during said game,
each of said first and second electronic means being
adapted to fetch identity and handicap information for at
least one player, as well as golf course information from
said golf club information system before a game session
20   commences,
said first and second electronic means being adapted to
receive score data for said player(s) during the game
session,
said first and second electronic means being adapted to
25   transfer score data to the golf club information system
by wireless means during the game session, the golf club
information system being adapted to compare the data
entered, verify the correctness of said data, compute an
updated handicap value for said player(s) and return the
30   updated handicap value to the respective electronic
means, whereby said first and second electronic means
will receive updated handicap values during the game.

According to a third aspect, the invention comprises a
35   method for managing handicap data during a game of golf,
said method including the following steps:
loading handicap and golf course information for at least
one player into a first portable electronic scorecard means

from a golf club information system before a game session
commences,
loading handicap information for said player(s) into a
second portable electronic scorecard means from said golf
5   club information system before said game session commences,
entering score data for said player(s) into the first
electronic means during the game session,
entering score data for said player(s) into the second
electronic means during the game session,
10   transmitting the score data entered into the first unit to
the second unit,
comparing the data entered into the first unit with the
data entered into the second unit,
verifying the correctness of said data,
15   transferring the verified score data to the golf club
information system,
computing an updated handicap value from the verified score
data, and
storing said updated handicap value.
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According to a fourth aspect, the invention comprises a
method for managing handicap data during a game of golf,
said method including the following steps:
loading handicap and golf course information for at least
25   one player into a first portable electronic scorecard means
from a golf club information system before a game session
commences,
loading handicap information for said player(s) into a
second portable electronic scorecard means from said golf
30   club information system before said game session commences,
entering score data for the player(s) into the first
electronic means during the game session,
entering score data for the player(s) during the game
session,
35   transmitting the entered score data from the first elec-
tronic means to the golf club information system by wire-
less means during the game session,
transmitting the entered score data from the second elec-

8

tronic means to the golf club information system by wire-
less means during the game session,
comparing the data entered into the first unit with the
data entered into the second unit,
5   verifying the correctness of said data,
computing an updated handicap value for the player(s),
storing said updated handicap value, and
returning the updated handicap value to the respective
electronic means during the game session, whereby said
10 first and second electronic means will receive updated
handicap values during the game.

According to a fifth aspect, the invention comprises a
device for managing handicap data during a game of golf,
15 including a Central Processing Unit, a memory, a user
interface, external communication means, said memory being
adapted to receive and store golf score data for at least
one player, means for synchronizing the data stored in said
memory with data stored in other corresponding units.
20
Further advantageous embodiments of the invention are
covered by the following dependent claims.

Brief description of the drawings
25
The invention will now be described in detail in reference
to the appended drawings, in which:

Fig. 1 shows the appearance of an electronic scorecard unit
30 according to the present invention,

Fig. 2 is a schematic diagram showing the functional blocks
of the unit in Fig. 1,

35 Fig. 3 illustrates the three operation modes of the unit
shown in Fig. 1,

Fig. 4 is a schematic diagram illustrating a first embodiment of the synchronisation mechanism used in the invention,

5   Fig. 5 is a corresponding diagram showing another way of synchronising the electronic scorecard units,

Fig. 6 is illustrating the database system used in the invention.

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Detailed description of the invention

System overview

15 The invention form a system where paper based scorecards and manual registration of golf play data is substituted with electronic handheld scorecards and means for automatically gather and organize the data in a central database for future access and reference. All functions for
20 entering score information lies in a handheld unit containing details on players and the golf course, plus the necessary means for receiving golf play data, storing them in score tables and calculating resulting points and handicap adjustments.
25
The system comprises three main parts:

1: A handheld unit with scorecard functionality.

30 2: A golf club information system comprising a golf club server that can be accessed from a terminal at the club house. The handheld units can be stored near said terminal; configured by the terminal before game and emptied of play details after game through a wireless connection. This
35 terminal provides the players with necessary functions for entering player details and choosing between the different options needed for setting up a game. There are also functions for displaying details after the game is

completed, along with options for paper printouts. After
play, the terminal transmits the data to a database, where
the players' profiles are updated.

5   3: A database where a profile is kept for all players using
the system. The database provides necessary data for
configuration of a new game, and stores resulting details
after the game is completed. Different parts of the
information on each profile can be accessed by the players,
10   golf clubs and other central groups or institutions
depending on level of access.

For the players, the system is used in the following way:
Before the game, a "flight" is established. The flight is a
15   group of active golf players sharing the same hole as they
play along. The players then choose a scorecard unit for
their game from a holder located at the terminal, or bring
with them their personal scorecard units. Then, the players
use their personal ID means to download necessary personal
20   information into the terminal, and set up their game
individually based on desired play mode and level. After
all active players in the flight have set up their game a
scorecard unit is wirelessly configured with the data, and
the unit is ready for play. In many cases, for example in a
25   tournament, the flight will require a second unit with the
exact same configuration. This unit is called a "marker",
and play data is recorded in parallel on these units to
ensure that the data entered is correct. If a marker unit
is required then the players activate this option on the
30   terminal and a second unit is configured before the flight
departs.

During the game, the players use a simple graphic interface
to choose player profile, hole and then enter the number of
35   strokes made on that hole. The unit makes a calculation of
points based on the results and after all holes are
completed the sum of these points will together with
adjustment rules give a new adjusted handicap for the

player. All details are displayed on the unit through
summaries. If the flight uses a second unit, a marker, the
data entered on the units will be verified against each
other, so that the players are forced to correct mistakes
5   in registration immediately.

After the game is finished, the data is retrieved from the
unit or units and displayed on the terminal upon demand.
The unit is also replaced in a holder located at the
10   terminal. From the terminal the players may view the
results and make a paper printout before the results are
stored in the central database.

Along with the play details, the current handicap stored on
15   the database is updated, and may provide an "official"
handicap, being a handicap that counts as genuine if the
players should visit clubs or courses not using the system.

The other details on the players profile can be accessed
20   through a web interface using standard access control,
where the player or other authorized parties can view play
history, performance development over time and various
statistics.

25   Electronic scorecard unit

Fig. 1 shows an embodiment of an electronic scorecard unit
according to the present invention. This unit includes a
display 1.1 and a keypad 1.2 for entering data and choosing
30   between the available operation modes. The scorecard unit
is housed in a ruggedized encapsulation 1.3, which is
watertight and suited for outdoor use even in a wet
climate.

35   Fig. 2 shows the principal functional blocks of a dedicated
scorecard unit, including a CPU 2.1, a RAM 2.2 storing
programs and data, communication means 2.3, a user
interface 2.4, and an optional GPS receiver 2.5.

The communication means 2.3 can be based on IR, Bluetooth, WLAN or any other custom short-range radio frequency communication system, e.g. operating in the 430 MHz band.

5   Presently, the user interface includes a conventional display screen and a keyboard. Other embodiments of the scorecard unit can rely on other interfaces, e.g. a touch sensitive screen, on which the user can input data with a stylus/pen, or a voice recognition unit. In addition,

10   biometrical recognition means can be incorporated in the scorecard reader, e.g. a fingerprint reader, for authenticating the identity of the user.

Optionally, the electronic scorecard unit may include a GPS

15   receiver 2.5. A map of the golf course can then be loaded into the scorecard unit; showing the actual position of the flight on the green, the position of the holes/starting points, the distance and direction to the next hole and so on. In addition, the position of the flight may be

20   transmitted to the terminal/golf club server. The golf club server can then follow the progression of the game and decide when another game may start on the same course.

The GPS receiver 2.5 is only an example of a feasible way

25   of determining the position of the scorecard unit. However, the position may be obtained by any method available. In its most simple embodiment, the position may be inferred by the golf club server from the data entered into the scorecard unit, i.e. when the score data for a certain hole

30   is entered, the flight is probably at that hole leaving for the next start position.

The scorecard unit can be adapted to hold and register personal score data for one player only. Alternatively, the

35   unit can be adapted to hold data for several players concurrently; the players shifting between the personal data sets by touching a key, or by touching the fingerprint

reader. Synchronisation between the data entered by each
player can then be performed internally in the unit.

Fig. 3 shows screen shots of three different operation

5   modes for the dedicated scorecard unit of Fig. 1. The
information screen at A shows the data loaded from the
database, i.e. the identity of each player and the official
handicap. Also shown is the number of additional strokes
available for each player, on this particular course. In

10   this case, the flight consists of four players. The screen
for entering data for one of the players in the flight is
shown at B. The person entering the data may shift between
the various players' screens by depressing the appropriate
button at the left hand side of the scorecard unit. The

15   summary screen C shows the results obtained by one of the
players so far in the game. Again, the summary screens for
other players may be retrieved by pressing the appropriate
button on the left.

20   At the present state of the art, it is preferred to
implement the invention using dedicated electronic
scorecard units, as described above. Then, we can be sure
that all participants in a game will possess a fully
functional unit.

25
However, it is also possibly to implement the scorecard
unit on a small handheld computer, like a PDA, a play
terminal, an advanced multifunctional mobile phone or a so-
called smartphone. Such units will possess all interfaces

30   needed to work as a scorecard, and can obtain the scorecard
functionality either from installed software, or by loading
an application from the Web, e.g. a Java application.
However, presently PDAs or mobile phones with the necessary
capabilities are not commonly owned by all players, as

35   these units have not yet reached a mature technical
development and standardisation of features. At a later
stage, when such devices are in common use, we foresee that

14

the dedicated units will be replaced with such personal
devices.

In the future, we can also foresee a further development
towards more advanced terminals, e.g. implemented on
electronic paper, or as a fourth generation cellular phone
without a conventional screen; the image being projected on
the retina. Electronic paper as such is e.g. described in
US patent application 2003/0020701, while retinal
projection is described in US patent 6560028 and US patent
5813990.

Wireless communication network

As mentioned above, each scorecard unit includes a short-
range communication transceiver and/or a long-range
communication unit. The communication equipment is used for
communication between the units of a flight, in order to
synchronise the data entered into the units by the players,
and to communicate the results to the golf club information
system. In the case of the units being of the dedicated
type, short-range communication systems are preferred,
based on IR, Bluetooth, WLAN or any other custom radio
frequency wireless communication system. In order to avoid
interferences between two nearby flights, e.g. when
crossing paths, the communication signals must be locked to
specific channels or encrypted, according to the system
used. When a hole is completed, the score data are entered
into the units by the players. Then, the scorecard units
will synchronise, as explained in detail below, by
communication over the short-range link. If the units
agree, the verified score is transmitted to the terminal in
the club house. In order to extend the area of coverage, a
number of base station units may be scattered across the
golf course. These units are connected with cable to the
system in the club house. The base station units could be
passive, listening only to the signals emitted by the
scorecard units. A measure of redundancy could be

incorporated into the system; the scorecard units could
repeat all results when completing a hole; transmitting a
signal packet containing the results of the game up until
then. However, it is rather preferred that the club system

5   transmits an acknowledge signal when a result has been
received. The base stations in the field could of course be
dispensed with. Then, the scorecard units will have to
store the results until the flight returns and come within
signal coverage of the club house. In addition, the

10 scorecard units include a hardwired serial interface, in
case the wireless system should fail completely.

In case of the scorecard units being PDAs/mobile phones
running a scorecard application, the units can synchronise

15 via a short-range communication system, e.g. IR or
Bluetooth, and the results being transmitted to the golf
club information system via the normal public mobile
communication system supported by the units, e.g. GSM,
GPRS, UMTS, or other similar systems. However, it is then

20 possible to let the golf club information system perform
the synchronisation, the units transmitting the number of
strokes entered by the users to the golf club information
system, receiving an acknowledge signal if everything is in
order. If the radio coverage is satisfactory, such a scheme

25 may be used in the dedicated units as well, lessening the
need for processing power in the units.

Synchronisation

30 Figure 4 shows a typical scenario during golf play with
usage of multiple units. The units have all been configured
during check in, as shown in figure 3.

Two or more units 6.1, 6.2 are used by a flight, i.e. a

35 team of players sharing the same hole. Two or more players,
or helpers, such as caddies, operate the units during play,
and operation is not limited to a certain individual.

During play scorecard data (such as number of strokes per
hole, type of stroke) is registered in the units 6.1, 6.2.
The units 6.1, 6.2 will attempt to compare the data by
synchronizing and then report any discrepancies, e.g. on
5   the display or as an audio or light alarm, or a data entry
or message to an external device, such as a part of a
tournament administration system. The discrepancies must be
corrected on one or both units and verified on both.

10 Synchronization method A in figure 4 uses a wireless
network 6.3 where registered scorecard data is transmitted
for synchronization e.g. after each completed hole. The
data is relayed through the golf club server 6.4, which can
keep a back-up copy. The golf club server 6.4 compares the
15 scorecard data received from the units 6.1, 6.2, and then
triggers the correction procedure in the units 6.1, 6.2.
If data matches, the units 6.1, 6.2 may inform the users
that data entry for that hole is completed, and the
scorecard data is marked as accepted and verified.
20
In systems using synchronization method B as shown in Fig.
5, the units 6.1, 6.2 will synchronize internally without
involving the server, by exchanging signals on a connection
linking the two units 6.1, 6.2. When any mismatch has been
25 corrected and the units are synchronized, the result is
transmitted to the golf club server over a wireless link
(not shown).

If the flight uses only one unit, by choice or due to unit
30 malfunction, there is no possibility to synchronize and
verify data with a second unit. The scorecard data from the
unit 6.1, 6.2 will be stored in the golf club server 6.4 as
previously described. Whenever the flight again operates a
second unit 6.1, 6.2, the system works as previously
35 described, and the mismatch between the units is corrected
in accordance with the described procedure.

17

Figure 6 shows the entire system where the arrows indicate
data flow during check in and check out of a flight. The
flight will during play use one ore more scorecard units of
the dedicated type 6.1 or mobile phone /PDA/Smartphone 6.2.

5   Unit 6.1 is typically a dedicated unit for golf play, where
the authorization of the users is done by using an
authorization source 6.1.b such as a smartcard (credit
card), Mobile phone with pin code, password or biometrical
methods. The authorization may involve resources available

10 over the network 6.3. The authorization source 6.1.b may
store handicap and player info; this can be used if data
cannot be retrieved from preferred sources, such as a
database 6.5.
Unit 6.2 is a non-dedicated unit, e.g. a mobile phone or a

15 generic device such as a PDA or game console. The scorecard
functionality comes from a data program that may be
preinstalled or downloaded from the network 6.3 during
check in. The programme may be coded using standard
programming languages, such as Java. The identification in

20 the unit 6.2 is either based on the units own method of
identification or a method using an external unit connected
to the network e.g. in the golf club server 6.4 or the
database 6.5. The unit 6.2 may also store data in the same
way as a separate authorization source 6.1.b.

25 As the score card unit 6.1 will have a design optimised for
golf play and a weatherproof construction, users having a
Mobile phone 6.2 may prefer to use a dedicated unit 6.1 and
optionally copy data from the system to their Mobile phone
6.2, during or after play, e.g. as part of the check out

30 procedure.

A unit 6.1, 6.2 is not limited to one instance per physical
device, as it is implemented as a process/application, and
thus all the units used by a flight may be operated on one

35 and the same physical device.

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Golf club information system

The information system may include a terminal placed in the
club house. The terminal is connected to a golf club server
5   6.4. The golf club server 6.4 is typically owned by the
golf club. It may be implemented using standard server
technology on e.g. a PC. The golf club server 6.4 runs
software that give the players configuration options for
the scorecard units 6.1, 6.2, possibility to register new
10   players and may control calculation and payment of e.g.
green fees or admission fees. Based on knowledge of the
players' handicap, play history and conduct the users may
be presented with options for registering to tournaments or
events not limited to the local golf club, as the server
15   6.4 gets information from other parts of the system 6.6,
6.9. Golfers may also be denied access to play, based on
the same principles.
The golf club server 6.4 may, as seen in figure 6, have
knowledge of all flights currently on the green. It may
20   also have statistics based on handicap and play history and
thus it can be used by the club administration to supervise
the flights and better calculate when a new flight can
begin.

25   ## Database

The central database 6.5 is where handicap data for a
number of clubs, or all clubs in a country or region, or
all golf clubs with the inventive system, or all clubs in
30   the world is stored. Every golf player has a unique
identification in the system. All play information
registered in the system is stored. It may include the
adjusted handicap resulting from the last play, and this
adjusted handicap can be used by clubs as the current,
35   official handicap.

The golf club's administration system 6.6 is a separate
computer program that serves all administrative purposes

for the golf club. It may be responsible for providing
official handicap during check-in and is synchronized with
the system's central database 6.5, which will normally be
the source for official handicap data during check in.
5   The web interface 6.7 is a function that provides player
statistics on a web page that can be part of any
personalized golf information system and may be accessed
from a web terminal 6.8, e.g. a home PC. Other, official
bodies 6.9 can also gain access to the data.
10

A set of golf clubs may be organized in a national,
international, league-based or union-based system 6.9 with
a common administrations system, that may use the handicap
and play data from the central database 6.5 for e.g.
15   statistics and basis for incentives.

A flight configures a play during check in. The data for
setting up the flight is player names and official
handicap, and may also include other relevant information
20   such as commercials or tournament invitations based on
handicap. The data is retrieved from the golf club
administration program 6.6 via the golf club server 6.4. If
no contact between the club server 6.4 and the
administration system 6.6 is possible, e.g. due to network
25   malfunction, then player data and handicap is retrieved
from the authorization source 6.1.b or 6.2, as previously
described.

Having a central regional, national or international
30   database opens up a possibility for players normally using
clubs with the inventive system to update the database 6.5
with play information from plays made at golf courses
without the inventive system. The update of information is
done in the club immediately after the play is completed,
35   and is done on a computer with an internet connection and a
web browser. This is all the more important as more and
more, access to popular clubs is conditioned by the
handicap of the player, be he/her an applying member or a

guest player. It is thus critical to have the most recent
handicap updated at once. Through a web-based interface the
player logs on using his login and password (given at first
registration) and through an option for ``manual update''

5   adds information on the completed golf play, and a new
handicap is calculated by the interface. For the update to
be accepted and the adjusted handicap declared official, a
representative from the golf club has to certify the update
by typing in his password. The golf club receives this

10   password by obtaining a authorization beforehand. This
authorization is given on request by a club after a
standard check. An update cannot be made by the club
without a player password and only to the player's profile,
and if the player reveals his password he is responsible

15   for future tampering to his profile done by the club.

Having a central regional, national or international
database is also required when a player plays on several
golf clubs/courses (national or international) using the

20   inventive system, and these different results are to be
updated to the same profile. Having an individual database
for each club is not an optimal solution, as all databases
has to contain the same information, and would require
unnecessary network traffic between them.

25
The primary function of the national/international database
is to provide accurate and dynamically adjusted handicap to
the central member databases. In countries/areas where such
databases do not exist, the national/international database

30   may assume the role of official handicap source for the
players there.

From the above, it can be inferred that the central
database can be realised either as a dedicated database or

35   as a distributed base. In the later case, all the data for
the individual players are stored in the local database of
his/hers golf club. The central database is a server with
pointers to the local bases. When a request for information

on a particular player arrives at the central server, the
data is retrieved from the local database. In the opposite
case, all the data are stored in a dedicated central base.
Then, there is no need for a local database, unless the

5   club prefers a local copy for back up or redundancy
purposes, as all data can be retrieved from the central
source.

The present inventive system has an additional advantage as

10   it can be fully automated, e.g. if someone wants to start a
game of golf early in the morning, before the staff manning
the club house has arrived, the participants can log in to
the system through the golf club's Web page, load their
personal handicap data into the electronic scorecards and

15   begin playing. All practical issues as to managing handicap
data, reservation of the green for the flight, billing
issues etc. will then be handled by the club information
system.